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ABSTRACT

This publication compiles the trends in environmental education within the Danish education system, comprising primary and secondary schools vocational training, and adult education for the period since the convening of the 1977 international intergovernmental conference in Tbilisi. Discussed are: (1) "Environmental Education in the Danish 'Folkeskole'" (including descriptions of the Danish educational system, examples of environmental education projects, and cooperation with other countries); (2) "Environmental Education in the 'Gymnasium' and the Higher Preparatory Course" (including teaching methods and coordination with traditional subjects); (3) "Environmental Education Within Vocational Training"; and (4) "Environmental Education in Elective Adult Training" (including leisure time education, production schools, and boarding schools). (CW)

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• Ten years after

Primary and secondary level

Environmental education in Denmark

SE 050 391

Danish ministry of Education
July 1987

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1. PREFACE

As part of the forthcoming discussion of an action plan for the 1990's at UNESCO's international conference in Moscow in August 1987, this publication compiles the trends in environmental education within the Danish educational system, comprising primary and secondary school, vocational training and adult education in the period since the international intergovernmental conference in Tbilisi in 1977.

It should be noted that environmental education at universities and institutions of higher learning has been considered separately in a joint Nordic report, which will be presented at the conference.

Contributions for the report have been submitted by members of the Coordination Group on Environment 1989 set up under the auspices of the Ministry of Education. (This group is also planning the Nordic biennale environmental education conference to be held in Copenhagen in June 1989.) The report has been edited by Mr. Steffen Wolf, Head of Section, assisted by Ms. Maja Winther Bengtsson, the Directorate for Further and Higher Education.

Shortly after the conclusion of the conference in 1977, a thorough Danish review was made and comments put forward on relevant recommendations for each individual educational level, and it was then proposed to initiate environmental education within the existing structure. At the same time, proposals were made for pinpointing areas for further work, both local and centralized, on the recommendations from the intergovernmental conference. The internationally renowned geologist, Professor Henning Sørensen, Ph.D., from the University of Copenhagen was in charge of this work.

The recommendations endorsed by the then Danish government, which were left open for very broad interpretation, have been an im-

portant source of inspiration for the development work, but have not been followed to the letter, of course.

The Danish government welcomes the initiative leading to the UNESCO conference and expects the conference results to form the basis for a more balanced integration of environmental education into the educational system and into educational research.

2. ENVIRONMENTAL EDUCATION IN THE DANISH "FOLKESKOLE"

2.1 Presentation

It is generally accepted in Denmark that environmental education should be offered at all levels, and that it should form part of a lifelong educational process. However, in the material that follows, the focus is on the instruction offered from the kindergarten to the 10th grade, i.e. primarily in the "Folkeskole" (the primary and lower secondary school).

2.2 The Danish Educational System

The Danish "Folkeskole" is a highly decentralized system. The Danish Parliament, the "Folketing", and the Ministry of Education have set up a general framework. The most important piece of legislation is the "Folkeskole" Act, which outlines the structure and objective of the education undertaken by the "Folkeskole". The broadly worded aims of the subjects in the "Folkeskole" constitute an important guideline as well.

Within this relatively broad scope, the individual local authorities plan their education so that it is adapted to the needs of the local population, the predominant trade and industry, special regions, etc.

To assist the local authorities in this work, the Ministry of Education makes proposals for curricula and teaching instructions for all subjects. It should be emphasized that the local authorities are free to choose whether they wish to use the advice and guidelines issued by the Ministry. Experience shows that the majority of the local authorities do so.

In conclusion, it is intended for the objectives of the "Folkeskole" and the individual subjects to be met! However, the contents and methods used in reaching this goal may vary a great deal from one local authority to another. There may even be con-

siderable differences between two schools under the same local authority.

Consequently, it is no easy matter to give a general description of environmental education in Denmark.

2.3 The Opportunities for Environmental Education

In reviewing the subjects taught in the "Folkeskole", it will become apparent that environmental education does not exist as a subject. This is in line with the recommendations made at the Tbilisi conference. For the purpose of following up these recommendations, the Danish Ministry of Education prepared a report in 1978, from which the following appears:

"Environmental education should basically be interdisciplinary and form an integrated part of the instruction given in a number of relevant natural science and social science subjects, such as biology/ecology, physics, chemistry, geography, history and social studies."

Since 1978, in some schools environmental education has centred around subjects like athletics and home economics. It is now a widespread opinion that all subjects taught play a role in environmental education. However, it should be stressed that environmental education cannot be accommodated by all the disciplines included in the school curriculum.

This is expressed very clearly in a report published after a conference in environmental education held by the Ministry of the Environment in cooperation with the Ministry of Education in March 1984:

"An educational process based on specific subjects/problems cannot be considered environmental education if the instruction is not correlated directly with man's relationship with the environment and the attendant problems."

Only for biology do the aims of the instruction contain a specific reference to environmental education:

"The instruction is to heighten the pupils' understanding of man's conditions and opportunities and thus provide them with a basis for taking a position on local and global environmental problems." However, the aims, curricula and guidelines for many other subjects contain passages which open up for including subjects of an environmental nature.

Thus, the framework is reasonable, and the regulations issued by the Ministry of Education do not exclude environmental subjects. On the other hand, it might be argued that comparatively few subjects encourage environmental education. This can be changed in revising the proposed curricula, and such revision is nearing its completion for social studies, which is part of the curriculum for the 8th - 10th grades.

At present, revisions are being undertaken with a view to preparing a new curriculum and objective for the subject physics/chemistry, taught from the 7th to the 10th grade. The outcome will probably be for physics/chemistry to become more naturally integrated with biology and geography, and together with these subjects be worked into environmental subject areas.

For instruction at the primary level, a topic booklet will be published by the Ministry of Education in 1987 with a view to encouraging more teaching of natural science subjects based on tests and experiments.

2.4 Utilizing the Given Opportunities

An evaluation of the trends in environmental education may be expressed as follows:

Environmental education forms an integral part of several subjects in Danish schools; however, the attendant declarations of intent have not yet produced their full effect on the teaching.

We point to the following barriers to environmental education in the Danish "Folkeskole":

- The subjects in which the environmental dimension is most easily incorporated are taught only a few hours a week (1-3 hours).

- In their planning, the schools seek to limit the number of teachers instructing a given class. Therefore, some teachers instruct a class in several subjects.

- At present, the demand for teachers' training and refresher courses cannot be met.

- Several of the subjects with which environmental education is most naturally associated are optional for the 8th - 10th grades. When the "Folkeskole" Act entered into force in 1975, a large number of pupils chose these subjects. However, attendance has dwindled more recently, and many people fear that in one or two years the subjects geography and biology will rarely be chosen by the most senior pupils.

2.5 Examples of Environmental Education Projects

However, the following wide range of examples shows the variety of levels at which efforts are made to promote environmental awareness. Measures have also been taken at more official level to stress the importance of environmental education.

It is evident that an increasing number of teachers are becoming more aware of the importance of teaching pupils about living organisms, and letting them do fieldwork and investigate their local environment. This is being done by attempting to utilize part of the school's outdoor areas. For example, ecological school gardens have been established, as well as woods and ponds, and in one instance, a nearby marsh was acquired for instruction. In an attempt to give pupils an opportunity to understand the relationship between nature and culture, a few teachers have independent-

ly structured parts of their teaching around subjects such as bee-keeping, sheep-breeding, aquaculture and ecological fish farming. In continuation of these projects, a number of teachers are attempting to establish closer contact to activities dependent on nature, such as agriculture and fishing. In 1984-85, co-operation was tested between four local school authorities and the local forestry districts on Zealand. This project, aimed at providing teachers with further training and giving the pupils exciting, nature-related instruction, is based on the assumption that teachers and foresters will cooperate on an equal footing. A large part of the project consists of practical experience and studies made in the wood.

It is quite clear that more and more politicians wish to support environmental education:

Last autumn, the County of Funen invited teachers, technicians and politicians to a conference on environmental education. The idea took hold and has subsequently been adopted by two other counties.

Already many years ago, the national forest service began building up a network of nature schools, and in recent years a number of local authorities have also started establishing their own nature schools. One local authority offers optional courses at the school in the summer holidays.

Schools focusing on environmental subjects have sprung up. Thus, both environmental continuation schools and general environmental schools have been established.

The number of school services attached to museums throughout the country is steadily increasing, and e.g. the school services in Copenhagen, Esbjerg and Hirtshals have had great success with their excursions, often based on one individual biotope.

If Danish schools wish to teach disciplines which are not directly within the scope of the "Folkeskole" Act, they may apply to

the Board of Educational Experimentation for permission. If permission is granted, the school is obliged to continue its education on the basis of the results of the experiment. Under the direction of the Board, for several years some schools have undertaken interdisciplinary teaching, including the subjects history, geography and biology. At some schools, the subject area is extended to include physics/chemistry. On the basis of these subjects, actual environmental education has been carried on under a pilot scheme at Holmegårdskolen on South Zealand.

As mentioned above, for a number of years many teachers have been aware of the necessity of developing sound environmental education. However, they have often worked in isolation, spurred on solely by their own enthusiasm. A few years ago, some of these teachers took the initiative in arranging a seminar where they could exchange their experiences and invite new inspiration. This initiative has since been followed up by semi-annual meetings, and the number of participants has increased considerably.

2.6 Cooperation with Other Countries

2.6.1 Cooperation within the EEC

In 1977, the EEC set up a network of pilot schools for environmental education, and this network has gone through two phases to date, each phase focusing on a specific age bracket. Throughout the period, Denmark has been involved actively with two pilot schools. Towards the end of the last, recently completed phase, it was very important for Danish schools that cooperation should develop beyond that among teachers. They succeeded, and classes from our pilot schools are taking an active part in environmental education at other schools in the network, e.g. in West Germany, Eire and Northern Ireland.

This exchange of pupils continues and will probably do so even though the network is not carried on through a third phase.

2.6.2 Cooperation with the Other Nordic Countries

At the end of the 1970's, the joint Nordic project on environmental education consisted of the production of educational materials. The completion of this work was marked by a conference in Elsinore in 1981. Here it was agreed that it was important to remain in contact, and it was proposed to hold joint Nordic symposia on environmental education at two-year intervals.

The first symposium was held in Stockholm in 1983. Norway hosted a large-scale arrangement in Oslo in 1985. The Finnish symposium in June 1987 stressed the importance of incorporating environmental education into basic teacher training and refresher courses.

Denmark has offered to act as host in 1989, and at the initial planning stage it looks as though the pervading theme at "Environment 1989" will be the element of action in environmental education.

2.7 Probable Perspectives

It is the general opinion that Danish teachers will require more environmental education in their refresher courses in coming years. This is also acknowledged by the Royal Danish School of Educational Studies, which handles the bulk of teacher refresher courses. Therefore, a nationwide teachers' course is scheduled for 1988. The attention drawn by such a course may result in the incorporation of environmental education into basic teacher training.

In widely different circles in Denmark today, there is a general appreciation of the necessity for sound environmental education.

At present, this growing understanding is largely fuelled by the supreme efforts made by associations, organizations and individuals.

In accordance with Danish educational tradition, this will very likely lead to an amendment of legislation and curricula so as to bring these into better concert with the development already in progress in the Danish "Folkeskole".

3. ENVIRONMENTAL EDUCATION IN THE "GYMNASIUM" AND THE HIGHER PREPARATORY COURSE

3.1 Presentation

In the decade since the international intergovernmental conference in Tbilisi, a number of initiatives have been taken at the upper secondary level in order to promote environmental education. In the main, these initiatives have been associated with existing subjects, either as activities forming an integral part of the individual subject or included in the integration of subjects. Thus, the aim has not been to develop an actual environmental subject with compulsory and systematic instruction of an interdisplinary nature. Rather, the intention is to stimulate the fairly good opportunities within the existing framework for teaching environmental issues in the widest sense.

3.2 The Opportunities for Environmental Education

3.2.1 Teaching Traditional Subjects

In the "Gymnasium" (upper-secondary school), compulsory instruction in environmental subjects is generally limited to the teaching of ecology as part of the subject biology. This instruction includes environmental pollution, natural resources management, biological production and the utilization of resources. But other subjects e.g. relating to the internal environment, are frequently included in the teaching of biology.

In geography, also a core subject for all pupils, environmental issues are taken up at many schools. For example, problems concerning resources and population are typically included in the instruction.

Other subjects, in particular chemistry, social studies and physics, also contribute to environmental education as a whole. However, these subjects are not core subjects for all upper-secondary pupils.

The situation for the Higher Preparatory Course is rather similar, as instruction in environmental problems is most frequently given within the framework of the core subjects biology and geography. The environmental dimension is also incorporated into other core subjects to a varying degree.

Several of the optional subjects include material related to the environment, either as a constituent part or as a natural choice. This applies especially to subjects such as biology, physics, geography, athletics, psychology and social studies.

3.2.2 Coordination of the Individual Subjects

In connection with the subjects taught at both the "Gymnasium" and the Higher Preparatory Course, it should be mentioned that many schools and courses traditionally integrate two or more subjects, particularly for environmental problems. Although the basis for coordination is the instruction in the individual subjects, this type of integration is combined with external activities, such as excursions. This is one of the ways in which actual environmental education can be accomplished within the given structure. In this connection it should also be mentioned that environmental issues often form part of feature weeks, theme days and other common activities at the schools.

One point which deserves special notice is that instruction in work environment issues has become quite widespread, e.g. inspired by a conference on the subject. The conclusions from this conference were subsequently compiled in the comprehensive report: "Rapport om arbejdsmiljøundervisningen ved de gymnasiale uddannelser" (Report on Work Environment Education at the Upper-Secondary level), 1982.

3.2.3 Experimental Education

In connection with experimental education, instruction in environmental subjects has played an important role as an area of development.

Thus, as an experiment in the "Gymnasium", environmental education has been taught as a specific subject for a time. Moreover, in a vast number of interdisciplinary experiments (e.g. in natural science subjects), instruction has been structured around environmental issues.

On an experimental basis, some Higher Preparatory Courses have offered core subject instruction in environmental issues, optional environmental subjects and a two-year course with a so-called "green" line. However, all this is still at the development stage.

The general conclusion is that environmental questions are a characteristic feature in the curricula for a wide range of experiments at the upper-secondary level.

3.3 Nordic Cooperation within Environmental Education

In spring 1978, the secretariat of the Nordic Council of Ministers, in concert with the Nordic Ministries of Education, appointed a Nordic Contact Group for education at the secondary level. National task forces, operating until 1981, were attached to this Contact Group. The Danish task force prepared material concerning "Housing Environment", which was circulated to "Gymnasiums" and Higher Preparatory Courses, among others. Since then, Nordic cooperation has been carried on in the form of Nordic environmental symposia, with the upper-secondary level receiving increasing representation. In connection with the conference "Environment 1989" to be held in Denmark, members representing upper-secondary education have been appointed to a central coordinating group which has been charged with the task of planning and implementing the arrangement.

3.4 Perspectives

3.4.1 Continuing Education

Environmental subjects have played an important role in the selection of subjects for teachers' continuing education. This includes interdisciplinary courses as well as refresher courses within the relevant subjects referred to above.

3.4.2 Environmental Education in the 1990's

A comprehensive reform of the "Gymnasium", including both structural changes and revision of subject descriptions has been adopted for implementation. This means that teaching according to the new principles can be commenced in 1988. However, this is not likely to affect the general strategy for environmental education, and there are no plans to establish an independent environmental subject. However, the reform will strengthen compulsory environmental education by increasing the incorporation of the environmental dimension into the new subject descriptions for the core subjects biology (3 hours), geography (3 hours) and physics/chemistry (totalling 9 hours for the mathematical line) or natural science subjects (7 hours for language study).

Biology includes "the biology of man", illuminating the relationship of people to the environment, so that the human organism is viewed in an overall perspective. In addition, the instruction comprises "ecology - environmental education", which deals with man's exploitation of and influence on nature, including the concept "sustainable exploitation". The instruction will include practical studies related to one or more ecosystems.

Geography instruction is to ensure that pupils have an understanding of nature as the basis for man's activities. Moreover, pupils must be made aware of the interrelationship between man's exploitation of the earth and its natural resources, and the environmental consequences, locally and globally. A central unit of the instruction will be "nature and environment".

Chemistry instruction includes a core unit on "safety measures in handling elements and chemical compounds", and one of the main objectives is to teach pupils about safety and environmental issues. Energy issues will form a central part of the subject physics (the mathematical line).

A natural science course for pupils studying languages is a new feature in the "Gymnasium", and the course borrows from mathematics, physics and chemistry. Compulsory topics include "energy", with a subtopic on energy supply, and "environment", with subtopics on safety in technological processes and topical environmental issues.

Environmental education in the new optional subjects at intermediate and advanced levels will be strengthened in general, as the environmental dimension will be incorporated directly in the curriculum to a greater extent. This applies particularly to the optional subjects biology, physics, geography, athletics, chemistry, social studies and the new technology subject.

Therefore, the general conclusion is that although the "Gymnasium" will not in future offer pupils environmental education as a connected whole, the instruction in environmental issues has been strengthened by integrating them into the individual courses.

Whether the Higher Preparatory Course is revised or not in the next few years, the development which has characterized environmental education in the "Gymnasium" will in all probability be mirrored by the future curriculum for the Higher Preparatory Course. Thus, it is anticipated that compulsory instruction in environmental issues will be boosted in the relevant courses, while it is unlikely that interdisciplinary environmental education will take the form of an independent core subject.

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4. ENVIRONMENTAL EDUCATION WITHIN VOCATIONAL TRAINING

4.1 Presentation

Vocational training is typically a combination of schooling and practical training. The area under consideration includes aviation, inland transport, food production, the graphic industries and trade. It is not possible to prepare a comprehensive description of environmental education in all the fields of vocational training.

However, work environments are relevant to all sectors of trade and industry, for which reason the current position and measures taken in this area will be discussed below.

4.1.1 The Position of Vocational Training in the Educational System

In the Danish educational system, vocational training starts when the pupil has completed his "Folkeskole" education; thus it is directed towards the same age group as the "Gymnasium". As opposed to the "Gymnasium", vocational training prepares the trainee for employment in a trade, but does not give him direct access to further education at universities or other institutions of higher learning.

4.2 Domestic Cooperation in Environmental Education

Even before the intergovernmental conference on environmental education at Tbilisi in 1977, the Ministry of Education had appointed a task force to consider instruction in issues relative to work environments.

The task force was composed of representatives from both sides of industry, the Work Environment Fund and officials from the Ministry of Labour, the Labour Inspection, the Ministry of the Interior and the Ministry of Education.

Peter Grünbaum, the Directorate for Vocational Training, chaired the task force, and the Directorate functioned as secretariat.

The task force has issued two papers.

The first paper from 1980 contained an evaluation of the existing work environment education within the "Folkeskole", specialist workers' training, training in the corporate sector, the training of engineers and occupational therapists and physiotherapists.

The general conclusion was that instruction in issues relevant to the work environment should be bolstered throughout the educational system.

Two central problems associated with such instruction were considered in the task force's second paper, published in 1984, viz. teachers' qualifications and teaching materials.

A central point in the second paper was that such instruction should include perspectives about:

- Origins
- effects and
- actions

Against the background of these two papers, the Directorate for Vocational Training has continued the didactic and methodological development work in:

1) The book "Arbejdsmiljø, teknologi og kvalifikationer" (Work Environments, Technology and Qualifications) and
2) the Work Environment Project 1984.

4.3 The Objective of Instruction in Work Environments

"Work Environments, Technology and Qualifications":

One of the theses put forward in this book is that the work environment and instruction in issues related to it cannot be considered in isolation. It is emphasized that it is necessary to take into account the external environment and the effect that changes in production processes will have on it as well as the work environment.

The book should meet some of the specific requirements for developing methods and tools to be used for instruction in the work environment within vocational training. This instruction should ensure the following:

that the trainees can help create a safe and sound work environment during their training,

that the trainees can utilize their knowledge of work environment issues to influence the specific environmental conditions at their future place of work,
and

that the trainees can apply their knowledge of current work environment problems to future environmental conditions and act accordingly.

4.4 Examples of Materials for Environmental Education

The Work Environment Project 1984, which comprises technical/educational development work financed by the Directorate for Vocational Training, has the following declared aim: "To concretize and test some of the recommendations made in the second paper published by the task force appointed to consider instruction in the work environment."

The project consists of:

- integrating instruction in specialized subjects and core subjects in the iron and metal industries,

- collecting articles to be used in the instruction,

- developing instruction manuals for noise-measuring software and software for recording substances and materials.

The course of instruction consists of various subtopics, of which some are to fulfil broad technical and educational objectives, while others are directed towards meeting specific objectives like those stated below:

- instruction in safety and the work environment
- prevention of chemical environmental problems
- noise measurement, as an interdisciplinary subject in work environment education
- soapy water as a substitute for oil-based cooling lubricants
- proposal for follow-up of ergonomics and work environment instruction in specialized subjects.

The 1987 status for work environment education in basic, technical vocational training is as follows:

- all trainees, including EFG (basic vocational training) trainees, receive instruction in concrete safety issues as well as the work environment, and the EFG trainees are also taught ergonomics and first aid.

4.5 Perspectives

In the area of work environment education, the following objectives are to be borne in mind:

- in planning new training and revising existing training, instruction in work environment is to be incorporated, not as a specific subject, but as a dimension in the individual units of the instruction;

- new technological-educational work is to be initiated currently and supported in order to further develop work environment education;

- a special project group has just been appointed under the auspices of the Directorate for the purpose of strengthening and promoting instruction in work environment issues.

5. ENVIRONMENTAL EDUCATION IN ELECTIVE ADULT TRAINING

The importance of elective adult training was stressed in many of the recommendations made at the conference in Tbilisi, as well the efforts made by voluntary organizations to promote environmental education.

5.1 Status

5.1.1 The Leisure-Time Education Act

The Danish Leisure-Time Education Act consists of three parts:

Part I: Youth school.
Part II: Leisure-time activities for children and young people.
Part III: Leisure-time activities for adults.

Environmental courses or activities fostering an understanding of the environment can be undertaken within the scope of all three parts.

Youth school is aimed at the age group from 14 to 18, and actual instruction is to be given for a minimum of 24 hours. In general, there must be at least 12 participants. The subject "environmental studies" has been approved for a general youth school course.

Within the framework of Part II, activities enhancing environmental awareness can be arranged in interest groups for children and young people. The age limit is the school-leaving age, thus comprising children from kindergarten to the 10th grade. No actual instruction is given, but the participants may join in recreational activities such as outdoor life, comprising not less than 20 nor more than 60 hours, with an average of at least 10 participants.

As regards leisure-time education for adults, environmental courses or activities enchancing environmental awareness can be

arranged in evening classes, study circles, as a series of lectures or in interest groups for adults. Actual instruction is only to be given for evening classes, providing information of a general nature about the subject.

Thus, the Leisure-Time Education Act opens up many possibilities for setting up environmental courses or activities related to the environment.

5.1.2 Single-Subject Education

The Act on Single-Subject Exam Courses for Adults provides that each county is to establish and hold courses which prepare adults for the school-leaving examinations of the "Folkeskole", and for examinations which are part of the Higher Preparatory Course.

The study of environmental issues has been accorded high priority in curricula for subjects relevant hereto.

5.1.3 Production Schools

Production schools offer combined education and production to young people between the age of 16 and 30 who are in uncertain employment and education situations. Thus, the curriculum consists of practical training and theory in equal measures.

All instruction is centred on practical work.

Several of these schools have based their training on the environment, e.g. recirculated fish-breeding stations, the breeding and rearing of houting, grayling, salmon, sea trout, carp and goldfish. Eel passes and fish ladders, etc. are manufactured at attached wood/metal workshops. Many projects are concerned with rectifying some of the damage already done to nature.

5.1.4 General Education at Boarding Schools

a. Folk High Schools

According to the Act on Folk High Schools, Agricultural Schools, Home Economics Schools and Continuation Schools, folk high schools offer adults general education and may in this connection accord priority to individual subjects or groups of subjects. Thus, under the provisions of the act, folk high schools are permitted to include environmental issues in their syllabuses and educational plans, and in recent years, in fact, it has become common for folk high schools to incorporate the environmental dimension into their instruction. Tests have been run on solar collectors and windmills, in connection with studying energy.

b. Continuation Schools

Continuation schools offer general education to young people between the age of 14 and 18. They may also instruct in subjects preparatory to an examination, and may hold examinations in the subjects comprised by the "Folkeskole". Environmental issues are part of many of the subjects taught by continuation schools, and there is increasing interest in taking up well-known subject-matter from an environmental viewpoint.

c. Home Economics Schools

Home economics schools offer general education, with special emphasis on home and family, and may give priority to individual subjects or groups of subjects in their syllabuses. These schools also consider it natural to give instruction in environmental subjects, e.g. in connection with questions related to families and homes, food science and the like.

5.1.5 Voluntary Organizations

Voluntary environmental organizations are mentioned in different contexts in as many as 18 of the 40 recommendations made at

Tbilisi. It is recommended that the type of environmental education given by these organizations should be incorporated into the educational system.

This includes the following:

- That environmental education is related to practice,

- that students are to assist in planning their own education, which will give them an opportunity to make decisions and accept the consequences,

- that developing low-priced teaching materials is accorded high priority,

- that instruction in environmental issues is directly related to the local urban or rural area,

- that the instruction aims at creating a sense of responsibility among nations through subregional and international cooperation,

- that the instruction aims at identifying environmental problems and taking an active part in solving them,

- that the instruction emphasizes practical work and firsthand experience.

The work of voluntary environmental organizations has increased since 1977. Environmental issues are in focus in the public debate and have attracted many people working in local associations and carrying on educational work.

In recent years, 23 nature schools have been established throughout the country at the initiative of various associations. Moreover, the first team of nature advisers has been set up with public support.

5.2 Perspectives

a. In future years, the aim for the education of adults and the general public is to establish contact between the numerous voluntary grass-root initiatives and publicly supported education.

Naturally, the adult education associations find it unsatisfactory that the public interest in environmental issues can be met only to a limited extent within organized efforts to link personal involvement with objectivity and versatility. Against this background, the Advisory Council for Danish Adult Education set up a task force in 1986 which was charged with finding means to strengthen the environmental dimension in adult education. An initial, concrete result of the group's deliberations is a catalogue outlining a number of proposed models for environmental education, describing contents as well as teaching methods.

b. As part of her participation in the Nordic cooperation within environmental education, Denmark will host the Nordic symposium on the environment in 1989.

At this symposium, experience and ideas will be presented for the further development of environmental courses in adult education, and in the period until 1989, a task force will consider these issues together with the Advisory Council for Danish Adult Education.

c. In connection with drafting a new Adult Education Act to replace the existing Leisure-Time Education Act, extensive experimental work has been initiated, also including projects on environmental education which take into account some of the stumbling blocks in current legislation.

As regards adult education (evening classes, folk high schools, educational work undertaken by environmental organizations, etc.), it follows naturally or from tradition that no

direct influence can be exerted by the central authorities. Their efforts must consist in setting up a framework for the development of initiatives in the area of environmental education, e.g. through subsidies. Official action to promote the general public's interest and awareness in environmental issues can be taken by informing the public via mass media (television) in the same way as in matters about road safety, health, work environment, etc.